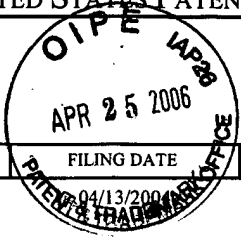




UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov



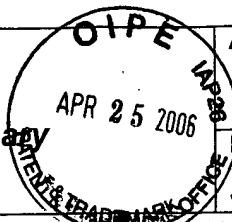
APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,079	04/13/2004	Tim Frost	09401-0104	3976
3490	7590	12/19/2005	EXAMINER BASTIANELLI, JOHN	
DOUGLAS T. JOHNSON MILLER & MARTIN 1000 VOLUNTEER BUILDING 832 GEORGIA AVENUE CHATTANOOGA, TN 37402-2289			ART UNIT 3751	

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Patent/Trademark Database Updated
(circle one)
Date: 12-27-05
Initials: Blm

DEC 27 2005

Office Action Summary

Application No.

10/823,079

Examiner

John Bastianelli

Applicant(s)

FROST, TIM

Art Unit

3751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-34 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Numbering

1. The claim numbers need to be fixed as claims 1-24 are correct and then after claim 24, the claim numbering is switched to 21-30 (there should be 34 claims total). This is to be fixed in the response to this restriction and the examiner reminds the applicant to fix the dependant claims as well. For example, the examiner does not know if second claim 21 goes to original claim 20 or if it goes to the claim above which is original claim 24.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
- I. Claims 1-23 and 27-34? drawn to a valve combination, classified in class 251, subclass 11
 - II. Claims 24-26?, drawn to a valve subcombination, classified in class 251, subclass 318.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the hook and opposing barbs are not claimed. The subcombination has separate utility such as in a beverage dispenser.

Art Unit: 3751


4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Bastianelli whose telephone number is (571) 272-4921. The examiner can normally be reached on M-F (9:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on (571) 272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John Bastianelli
Primary Examiner
Art Unit 3751



JB

December 8, 2005



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Frost
Serial No.: 10/823,079
Filing Date: April 13, 2004
For: Modular Valve Assembly

Examiner: John Bastianelli
Group A.U.: 3751

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, Virginia 22313-1450

AMENDMENT AND RESPONSE

Dear Sir:

The Applicant has received the Official Action dated December 19, 2005. In the Office Action, the Examiner has provided issues related to claim numbering and an election requirement. These issues will be addressed in the same order as provided by the Office Action. Amendments to the claims are provided herewith on the enclosed pages in accordance with the current requirements of C.F.R. § 1.121 marked *** **VERSION SHOWING CHANGES MADE *****.

Patent/Trademark Database Updated
(circle one)

Date: 1-12-06

Initials: BLM

REMARKS

Claim Numbering

The Examiner correctly observes that the applicant inadvertently duplicated claim numbers 21-24. The enclosed amendment to the claims correctly numbers the claims 1-34 as originally filed in proper numerical order.

Election/Restrictions

The Examiner further identified two inventions classified as combination and subcombination, namely, group I comprised of claims 1-23 and 27-34, and group II comprised of 24-26.

The applicant hereby elects group I (claims 1-23 and 27-34) without traverse.

Conclusion

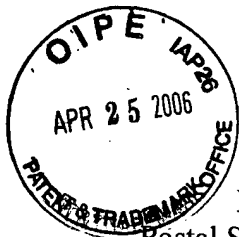
As affected by the enclosed amendment, the application is believed to be in proper form for substantive examination.

Respectfully submitted,

Date: JANUARY 12, 2006

By: 

Stephen J. Stark
Attorney for Applicant
MILLER & MARTIN LLP
Suite 1000 Volunteer Building
832 Georgia Avenue
Chattanooga, Tennessee 37402
(423) 756.6600



CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, Virginia 22313-1450

on this 2th day of January, 2006.

By: Beverly L. Middleton
Beverly L. Middleton

***** VERSION SHOWING CHANGES MADE *****

CLAIMS

1. (Original) A valve assembly comprising:

a plug having a valve seat at a distal portion of the plug, said plug having an outer perimeter defining a first cross sectional area;

a holder cantileveredly connected to the plug;

an actuator operably connected to the holder;

a poppet connected to the actuator, said poppet driven by the actuator intermediate an open configuration wherein a fluid passes intermediate the valve seat and the poppet and a closed configuration wherein the poppet forms a seal relative to the valve seat;

wherein the holder, actuator and poppet are positioned within a second cross sectional area parallel to the first cross sectional area when in at least one of the open and closed configurations, said second cross sectional area bounded by a parallel cross section of the first cross sectional area.

2. (Original) The valve assembly of claim 1 wherein the actuator has at least one shape memory alloy member.

3. (Original) The valve assembly of claim 2 wherein the at least one shape memory alloy member is further comprised of a plurality of linearly moveable shape memory alloy members operably connected together for parallel movement wherein a total movement of the actuator is greater than a movement of any individual linearly moveable shape memory alloy member.

4. (Original) The valve assembly of claim 1 wherein the actuator places the valve assembly in an open configuration upon receipt of an electrical signal.
5. (Original) The valve assembly of claim 4 further comprising a biasing member and wherein upon a discontinuance of the electrical signal, the biasing member at least assists in placing the valve assembly in a closed configuration.
6. (Original) The valve assembly of claim 1 wherein the end plug further comprises a boss extending from a face of the end plug, said boss having the valve seat thereon.
7. (Original) The valve assembly of claim 6 wherein the holder further comprises a base which contacts the face of the end plug.
8. (Original) The valve assembly of claim 6 wherein the boss further comprises a body, a neck and a head, the head having the valve seat, and the neck having a smaller perimeter than an outer perimeter of the head and the body thereby defining a channel intermediate the body and the head.
9. (Original) The valve assembly of claim 8 wherein the holder has a flange which is received within the channel in the boss.

10. (Original) The valve assembly of claim 6 wherein the face has a cross sectional area larger than the cross sectional area of the holder, the actuator and the poppet in both the open and closed configurations.

11. (Original) The valve assembly of claim 1 wherein the valve seat is located along an axis of the end plug and the poppet is linearly driven along the axis.

12. (Original) The valve assembly of claim 1 further comprising a housing extending about the holder, poppet and actuator.

13. (Original) The valve assembly of claim 12 further comprising an electrical connection exterior to the housing electrically communicating with the actuator.

14. (Original) The valve assembly of claim 13 wherein the electrical connection receives an electrical input from an ignitor, and the valve assembly provides a gas supply through the valve seat to a burner when the valve assembly is in the open configuration.

15. (Original) The valve assembly of claim 14 wherein the valve assembly is normally in the closed configuration and is placed in the open configuration upon receipt of the electrical input exceeding 2.4 Amps.

16. (Original) The valve assembly of claim 15 wherein the valve assembly is placed in the open configuration when the electrical input is intermediate a range of about 2.5 Amps to about 3.1 Amps.

17. (Original) The valve assembly of claim 15 wherein the valve assembly is biased toward the closed configuration and upon one of a loss of the electrical input and the electrical input failing to exceed a predetermined minimum, the valve is returned to the closed configuration.

18. (Original) The valve assembly of claim 12 wherein the housing defines a tube and said plug being a first end plug connected at a proximal end of the tube.

19. (Original) The valve assembly of claim 18 further comprising a second end plug connected to a distal end of the tube.

20. (Original) The valve assembly of claim 19 wherein the second end plug further comprises
a passage in communication with a proximal end of the second end plug,
an outlet normally in communication with the passage,
a post extending through a portion of the end plug,
a seal located at a proximal end of the post, said seal operable intermediate
an open and a closed configuration, said seal normally in the open configuration wherein
the passage and outlet are in fluid communication, and upon movement of the post, said seal
obstructing communication from the passage to the outlet thereby placing the second end plug in
a closed configuration.

21. (Original) The valve assembly of claim 1 further comprising a connector connecting the actuator to the poppet, said connector having a hook with opposing barbs, and said poppet having a cavity with opposing slots in a resilient sleeve, said barbs retained in the slots.

22. (Original) The valve assembly of claim 1 wherein the holder further comprises a shoulder and a biasing member is located intermediate the shoulder and a portion of the poppet, said biasing member normally locating the poppet against the valve seat to place the valve assembly in the closed configuration.

23. (Original) The valve assembly of claim 21 wherein the holder further comprises a clip which at least assists in fixedly retaining at least a portion of the actuator relative to the holder, said clip located opposite the shoulder from the valve seat.

24-26. (Cancelled)

~~23~~ 27. (Currently Amended) A valve assembly comprising:

an actuator;

a holder connected to a portion of the actuator;

a poppet connected to the actuator;

a valve seat disposed along an axis with the poppet, said poppet linearly operable intermediate an open and a closed configuration with respect to the valve seat, and said holder fixedly mounted relative to the valve seat; and

wherein the actuator moves the poppet from a first position linearly to a second position, wherein when in the first position, said valve assembly is in the closed configuration, and when in the second position, said valve assembly is in the open configuration.

24 28. (Currently Amended) The valve assembly of claim ~~23~~ 27 wherein the actuator is releasably connected to the holder at a clip.

25 29. (Currently Amended) The valve assembly of claim 24 28 wherein the holder further comprises a shoulder and further comprising a biasing member intermediate a portion of the poppet and the shoulder.

26 30. (Currently Amended) The valve assembly of claim 25 29 wherein the shoulder is intermediate the clip and the biasing member.

27 31. (Currently Amended) A valve assembly comprising:

- a housing with a proximal and distal end;
 - a first end plug at the proximal end of the housing, said first end plug having an inlet;
 - a second end plug at the distal end of the housing having a manual shut off valve
- comprising
- a passage in communication with a proximal end of the second end plug,
 - an outlet normally in communication with the passage,
 - a post extending through a portion of the end plug,
 - a seal located at a proximal end of the post, said seal operable intermediate

an open and a closed configuration, said seal normally in the open configuration wherein the passage and outlet are in fluid communication, and upon movement of the post, said seal obstructing communication from the passage to the outlet thereby placing the manual shut off valve in a closed configuration.

~~28~~ 32. (Currently Amended) The valve assembly of claim ~~27~~ 31 wherein the first end plug has a first outer perimeter and the second end plug has an outer perimeter and the first and second outer perimeters are parallel to one another.

~~29~~ 33. (Currently Amended) The valve assembly of claim ~~28~~ 32 wherein the first and second outer perimeters are equal in length.

~~30~~ 34. (Currently Amended) The valve assembly of claim ~~29~~ 33 wherein the first end plug further comprises a valve seat, and the valve assembly further comprises an electrically operated actuator connected to a poppet.

